

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number  
**WO 2005/017148 A1**

- (51) International Patent Classification<sup>7</sup>: C12N 15/00, A61K 39/395, C07K 16/00
- (21) International Application Number: PCT/US2003/041600
- (22) International Filing Date: 24 December 2003 (24.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10/627,556 26 July 2003 (26.07.2003) US
- (71) Applicant (*for all designated States except US*): **TRUBION PHARMACEUTICALS, INC.** [US/US]; 2401 Fourth Avenue, Suite 1050, Seattle, WA 98121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **LEDBETTER, Jeffrey, A.** [US/US]; 18798 Ridgefield Road Northwest, Shoreline, WA 98177 (US). **HAYDEN-LEDBETTER, Martha, S.** [US/US]; 18798 Ridgefield Road Northwest, Shoreline, WA 98177 (US). **THOMPSON, Peter, A.** [US/US]; 14075 30th Place N.E., Bellevue, WA 98007 (US).
- (74) Agents: **DUFT, Bradford, J. et al.**; Buchanan Ingersoll PC, One Oxford Centre, 20th Floor, Pittsburgh, PA 15219-1410 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: BINDING CONSTRUCTS AND METHODS FOR USE THEREOF

(57) Abstract: The invention relates to novel binding domain-immunoglobulin fusion proteins that feature a binding domain for a cognate structure such as an antigen, a counterreceptor or the like, a wild-type IgG, IGA or IgE hinge-acting region, *i.e.*, IgE CH2, region polypeptide or a mutant IgG hinge region polypeptide having either zero, one or two cysteine residues, and immunoglobulin CH2 and CH3 domains, and that are capable of ADCC and/or CDC while occurring predominantly as polypeptides that are compromised in their ability to form disulfide-linked multimers. The fusion proteins can be recombinantly produced at high expression levels. Also provided are related compositions and methods, including cell surface forms of the fusion proteins and immunotherapeutic applications of the fusion proteins and of polynucleotides encoding such fusion proteins.



WO 2005/017148 A1